UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,420	03/16/2004	Charu C. Aggarwal	YOR920040039US1	2046

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Ryan, Mason & Lewis, LLP	LOVEL, KIMBERLY M
90 Forest Avenue	
Locust Valley, NY 11560	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/801,420	AGGARWAL ET AL.
	Examiner	Art Unit	
	Kimberly Lovel	2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 May 2007*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)   4)☐ Interview Summary (PTO-413)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)   Paper No(s)/Mail Date. _____.
3)☐ Information Disclosure Statement(s) (PTO/SB/08)   5)☐ Notice of Informal Patent Application
    Paper No(s)/Mail Date _____.   6)☐ Other: _____.

DETAILED ACTION

1.   This communication is responsive to the Amendment filed 24 March 2007.

2.   Claims 1-31 are pending in this application. Claims 1, 16 and 31 are

independent. In the Amendment filed 24 March 2007, claims 1, 16 and 31 have been

amended. This action is made Final.

3.   The prior art rejections of the claims have been withdrawn as necessitated by

amendment.

Claim Rejections - 35 USC § 101

4.   The rejection of **claim 31** because the claimed invention is directed to non-

statutory subject matter has been withdrawn as necessitated by amendment.

5.   **Claim 31** is rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7.   This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

8.   Claims 1-6, 9, 12, 16-21, 24 and 27 are rejected under 35 U.S.C. 103(a) as

being unpatentable over US PGPub 2002/0161763 to Ye et al (hereafter Ye) in view

of US PGPub 2002/0107858 to Lundahl et al (hereafter Lundahl) in view of US

PGPub 2003/0158855 to Farnham et al (hereafter Farnham).

Referring to claim 1, Ye discloses a method for monitoring abnormalities in a

data stream (see abstract and [0030]), comprising the steps of:

receiving a plurality of objects in the data stream [stream of data] (see [0035],

lines 5-8);

creating one or more clusters from the plurality of objects (see [0035], lines 10-

13), wherein at least a portion of each of the one or more clusters comprises statistical

data [sample variance, sample covariance and sample mean] representative of the

respective cluster (see [0041]); ·

Ye discloses clustering objects and determining if an object is abnormal

compared to a distance value (see [0157]-[0170]), however, Ye fails to explicitly

disclose the further limitations of determining from the statistical data whether each of

the one or more clusters is abnormal when compared to a predefined value and

reporting at least one of the one or more clusters as an abnormal cluster of objects in

the data stream. Lundahl discloses performing cluster analysis on data in order to segment data into appropriate clusters for subsequent processing (see [0010], lines 5-8), including the further limitations of determining from the statistical data whether each of the one or more clusters is abnormal when compared to a predefined value (see [0217]); and reporting [classifying] at least one of the one or more clusters as an abnormal cluster of objects in the data stream (see [0217]) in order to improve the capability of an intrusion detection algorithm to be scalable and efficient in the handling data in real-time systems.

It would have been obvious to one of ordinary skill in the to use the features of determining whether an entire cluster is abnormal and reporting that abnormality as disclosed by Lundahl using the statistical data determined by Ye. One would have been motivated to do so in order to improve the capability of an intrusion detection algorithm to be scalable and efficient in the handling data in real-time systems (Ye: see [0010], lines 6-8).

The combination of Ye and Lundahl (hereafter Ye/Lundahl) fails to explicitly disclose the further limitation wherein the statistical data comprises a time-sensitive weight for each of the plurality of objects in each of the one or more clusters, the time-sensitive weight having a value that decreases at a specified rate such that more recently received objects are assigned a higher priority, and wherein the one or more clusters are condensed for maintenance at a high level of granularity as one or more cluster droplets. Farnham discloses clustering data objects, including the further limitation wherein the statistical data comprises a time-sensitive weight for each of the

plurality of objects in each of the one or more clusters, the time-sensitive weight having

a value that decreases at a specified rate such that more recently received objects are

assigned a higher priority, and wherein the one or more clusters are condensed for

maintenance at a high level of granularity as one or more cluster droplets (see [0075]

and [0109]).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to utilize the concept of applying time-sensitive weights as

disclosed by Farnham to each of the data objects of Ye/Lundahl. One would have been

motivated to do so in order to increase the accuracy of insuring that the most current

data is being utilized.

Referring to claim 2, the combination of Ye/Lundahl and Farnham (hereafter

Ye/Lundahl/Farnham) discloses the method of claim 1, wherein the step of creating one

or more clusters further comprises:

computing one or more similarity values for a given object relating to one or more

existing clusters (Ye: see [0157]-[0162]); and

determining a closest cluster for the object based on the one or more similarity

values (Ye: see [0163]).

Referring to claim 3, Ye/Lundahl/Farnham discloses the method of claim 2,

further comprising the steps of:

determining whether to add the object to the closest cluster (Ye: see [0157-

[0163]);

adding the object to the closest cluster when determined and updating the statistical data of the closest cluster (Ye: see [0041]-[0042]); and

creating a new cluster comprising the object when the object is not added to the closest cluster (see column 13, lines 31-35), and generating statistical data of the new cluster (see column 9, lines 4-14 and column 14, lines 53 – column 15, line 2).

Referring to claim 4, Ye/Lundahl/Farnham discloses the method of claim 3, wherein the step of determining whether to add the object to the closest cluster further comprises the step of determining if the similarity value is greater than a user-defined threshold (Ye: see [0173]).

Referring to claim 5, Ye/Lundahl/Farnham discloses the method of claim 1, wherein the step of determining from the statistical data whether each of the one or more clusters is abnormal further comprises the steps of:

determining which clusters present at a first time were not present at a second time, wherein the second time is before the first time; determining which of the clusters, present at the first time and not present at the second time, contain fewer than a user-defined number of objects; and reporting clusters with fewer than the user-defined number of objects as abnormalities (Lundahl: see [0217]).

Referring to claim 6, Ye/Lundahl discloses the method of claim 1, wherein the statistical data of each cluster is stored using an incremental updating process (Ye: see [0154], lines 8-15).

Referring to claim 9, Ye/Lundahl/Farnham discloses the method of claim 1,

wherein the statistical data of each cluster comprises a number of objects [number of

data points] in each cluster (Ye: see [0154], lines 9-13).

Referring to claim 11, Ye/Lundahl/Farnham discloses the method of claim 1,

wherein the step of creating one or more clusters further comprises the step of applying

one or more weights to one or more attributes (Ye: see [0174]).

Referring to claim 12, Ye/Lundahl/Farnham discloses the method of claim 1,

wherein abnormalities comprise intrusions in a network (Ye: see [0030], lines 10-17).

Referring to claim 16, Ye discloses an apparatus for monitoring abnormalities in

a data stream (see abstract and [0030]), comprising:

a memory (digital storage medium) (see [0026] and Fig 1); and

at least one processor [computer system] coupled [network] to a memory and

operative to:

(i) receive a plurality of objects in the data stream [stream of data] (see

[0035], lines 5-8) and

(ii) create one or more clusters from the plurality of objects (see [0035],

lines 10-13), wherein at least a portion of the one or more clusters comprise

statistical data [sample variance, sample covariance and sample mean] of the

respective cluster (see [0041]).

Ye discloses clustering objects and determining if an object is abnormal

compared to a distance value (see [0157]-[0170]), however, Ye fails to explicitly

disclose the further limitation of (iii) determine from the statistical data whether each of

the one or more clusters is abnormal when compared to a predefined value. Lundahl

discloses performing cluster analysis on data in order to segment data into appropriate

clusters for subsequent processing (see [0010], lines 5-8), including the further limitation

of (iii) determine from the statistical data whether each of the one or more clusters is

abnormal when compared to a predefined value (see [0217]) in order to improve the

capability of an intrusion detection algorithm to be scalable and efficient in the handling

data in real-time systems.

It would have been obvious to one of ordinary skill in the to use the feature of

determining whether an entire cluster is abnormal and as disclosed by Lundahl using

the statistical data determined by Ye. One would have been motivated to do so in order

to improve the capability of an intrusion detection algorithm to be scalable and efficient

in the handling data in real-time systems (Ye: see [0010], lines 6-8).

The combination of Ye and Lundahl (hereafter Ye/Lundahl) fails to explicitly

disclose the further limitation wherein the statistical data comprises a time-sensitive

weight for each of the plurality of objects in each of the one or more clusters, the time-

sensitive weight having a value that decreases at a specified rate such that more

recently received objects are assigned a higher priority, and wherein the one or more

clusters are condensed for maintenance at a high level of granularity as one or more

cluster droplets. Farnham discloses clustering data objects, including the further

limitation wherein the statistical data comprises a time-sensitive weight for each of the

plurality of objects in each of the one or more clusters, the time-sensitive weight having

a value that decreases at a specified rate such that more recently received objects are

assigned a higher priority, and wherein the one or more clusters are condensed for maintenance at a high level of granularity as one or more cluster droplets (see [0075] and [0109]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the concept of applying time-sensitive weights as disclosed by Farnham to each of the data objects of Ye/Lundahl. One would have been motivated to do so in order to increase the accuracy of insuring that the most current data is being utilized.

Referring to claim 17, Ye/Lundahl/Farnham discloses the apparatus of claim 16, wherein the operation of creating one or more clusters further comprises:

computing one or more similarity values for a given object relating to one or more existing clusters (Ye: see [0157]-[0162]); and

determining a closest cluster for the object based on the one or more similarity values (Ye: see [0163]).

Referring to claim 18, Ye/Lundahl/Farnham discloses the apparatus of claim 17, further comprising:

determining whether to add the object to the closest cluster (Ye: see [0157-[0163]);

adding the object to the closest cluster when determined and updating the statistical data of the closest cluster (Ye: see [0041]-[0042]); and

creating a new cluster comprising the object when the object is not added to the

closest cluster (see column 13, lines 31-35), and generating statistical data of the new

cluster (see column 9, lines 4-14 and column 14, lines 53 – column 15, line 2).

Referring to claim 19, Ye/Lundahl/Farnham discloses the apparatus of claim 18,

wherein determining whether to add the object to the closest cluster further comprises

the step of determining if the similarity value is greater than a user-defined threshold

(Ye: see [0173]).

Referring to claim 20, Ye/Lundahl/Farnham discloses the apparatus of claim 17,

wherein the operation of determining from the statistical data whether each of the one or

more clusters is abnormal further comprises:

determining which clusters present at a first time were not present at a second

time, wherein the second time is before the first time; determining which of the clusters,

present at the first time and not present at the second time, contain fewer than a user-

defined number of objects; and reporting clusters with fewer than the user-defined

number of objects as abnormalities (Lundahl: see [0217]).

Referring to claim 21, Ye/Lundahl/Farnham discloses the apparatus of claim 16,

wherein the statistical data of each cluster is stored using an incremental updating

process (Ye: see [0154], lines 8-15).

Referring to claim 24, Ye/Lundahl/Farnham discloses the apparatus of claim 16,

wherein the statistical data of each cluster comprises a number of objects [number of

data points] in each cluster (Ye: see [0154], lines 9-13).

Referring to claim 26, Ye/Lundahl/Farnham discloses the apparatus of claim 16, wherein the operation of creating one or more clusters further comprises the step of applying one or more weights to one or more attributes (Ye: see [0174]).

Referring to claim 27, Ye/Lundahl/Farnham discloses the apparatus of claim 16, wherein abnormalities comprise intrusions in a network (Ye: see [0030], lines 10-17).

Referring to claim 31, Ye discloses an article of manufacture for monitoring abnormalities in a data stream (see abstract and [0030]), comprising a machine readable containing one or more programs which when executed implement the steps of:

receiving a plurality of objects in the data stream [stream of data] (see [0035], lines 5-8); and

creating one or more clusters from the plurality of objects (see [0035], lines 10-13), wherein at least a portion of each of the one or more clusters comprises statistical data [sample variance, sample covariance and sample mean] representative of the respective cluster (see [0041]).

Ye discloses clustering objects and determining if an object is abnormal compared to a distance value (see [0157]-[0170]), however, Ye fails to explicitly disclose the further limitations of determining from the statistical data whether each of the one or more clusters is abnormal when compared to a predefined value and reporting [classifying] at least one of the one or more clusters as an abnormal cluster of objects in the data stream.

Lundahl discloses performing cluster analysis on data in order to segment data
into appropriate clusters for subsequent processing (see [0010], lines 5-8), including the
further limitations of determining from the statistical data whether each of the one or
more clusters is abnormal when compared to a predefined value (see [0217]) (see
[0217]) and reporting [classifying] at least one of the one or more clusters as an
abnormal cluster of objects in the data stream (see [0217]) in order to improve the
capability of an intrusion detection algorithm to be scalable and efficient in the handling
data in real-time systems.

It would have been obvious to one of ordinary skill in the to use the feature of
determining whether an entire cluster is abnormal as disclosed by Lundahl using the
statistical data determined by Ye. One would have been motivated to do so in order to
improve the capability of an intrusion detection algorithm to be scalable and efficient in
the handling data in real-time systems (Ye: see [0010], lines 6-8).

The combination of Ye and Lundahl (hereafter Ye/Lundahl) fails to explicitly
disclose the further limitation wherein the statistical data comprises a time-sensitive
weight for each of the plurality of objects in each of the one or more clusters, the time-
sensitive weight having a value that decreases at a specified rate such that more
recently received objects are assigned a higher priority, and wherein the one or more
clusters are condensed for maintenance at a high level of granularity as one or more
cluster droplets. Farnham discloses clustering data objects, including the further
limitation wherein the statistical data comprises a time-sensitive weight for each of the
plurality of objects in each of the one or more clusters, the time-sensitive weight having

a value that decreases at a specified rate such that more recently received objects are

assigned a higher priority, and wherein the one or more clusters are condensed for

maintenance at a high level of granularity as one or more cluster droplets (see [0075]

and [0109]).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to utilize the concept of applying time-sensitive weights as

disclosed by Farnham to each of the data objects of Ye/Lundahl. One would have been

motivated to do so in order to increase the accuracy of insuring that the most current

data is being utilized.

9.   **Claims 7, 10, 22 and 25 are rejected under 35 U.S.C. 103(a) as being

unpatentable over US PGPub 2002/0161763 to Ye et al in view of US PGPub

2002/0107858 to Lundahl et al in view of US PGPub 2003/0158855 to Farnham et al

as applied respectively to claims 1 and 16 above, and further in view of US Patent

No 6,625,585 to MacCuish et al (hereafter MacCuish et al).**

Referring to claim 7, Ye/Lundahl/Farnham discloses statistical data. However,

Ye/Lundahl/Farnham fails to explicitly disclose the further limitation wherein the

statistical data of each cluster comprises one or more statistical counts of each pairwise

attribute. MacCuish et al disclose clustering data (see abstract) including the further

limitation wherein the statistical data of each cluster comprises one or more statistical

counts of each pairwise attribute (see column 14, lines 44-62) so in order to improve the

accuracy of calculating the similarity of the clusters.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize pairwise attributes of MacCuish et al as the type of statistical data utilized by Ye/Lundahl/Farnham. One would have been motivated to do so in order to improve the accuracy of calculating the similarity of the clusters.

Referring to claim 10, Ye/Lundahl/Farnham discloses statistical data. However, Ye/Lundahl/Farnham fails to explicitly disclose the further limitation wherein the statistical data is stored periodically at intervals chosen based on a pyramidal distribution. MacCuish et al disclose clustering data (see abstract) including the further limitation wherein the statistical data is stored periodically at intervals chosen based on a pyramidal distribution (see column 14, lines 27-29) since the data being clustered is being transmitted in a stream which means that new data is constantly being clustered and clustering at a periodic interval decreases utilized system resources.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the feature of periodically storing the statistics of MacCuish et al as the type of statistical data utilized by Ye/Lundahl/Farnham. One would have been motivated to do so since the data being clustered is being transmitted in a stream, which means that new data is constantly being clustered and clustering at a periodic interval decreases utilized system resources.

Referring to claim 22, the claim is rejected on the same grounds as claim 7.

Referring to claim 25, the claim is rejected on the same grounds as claim 10.

10.   Claims 8, 13-15, 23 and 28-30 are rejected under 35 U.S.C. 103(a) as being

unpatentable over US PGPub 2002/0161763 to Ye et al in view of US PGPub

2002/0107858 to Lundahl et al in view of US PGPub 2003/0158855 to Farnham et al

as applied respectively to claims 1 and 16 above, and further in view of US PGPub

2004/0098617 to Sekar (hereafter Sekar).

Referring to claim 8, Ye/Lundahl/Farnham discloses statistical data of each

cluster. However, Ye/Lundahl/Farnham fails to explicitly disclose the further limitation

wherein the statistical data of each cluster comprises one or more statistical counts of

each categorical attribute. Sekar discloses statistical data, including the further

limitation wherein the statistical data of each cluster comprises one or more statistical

counts of each categorical attribute (Sekar: see [0088], lines 1-7) in order to increase

the speed and efficiency at which intrusions can be detected in a large sample of data.

It would have been obvious to one of ordinary skill in the art to use the statistical

counts of Sekar as additional data to the statistical data Ye/Lundahl/Farnham. One

would have been motivated to do so in order to increase the speed and efficiency at

which intrusions can be detected in a large sample of data.

Referring to claim 13, Ye/Lundahl/Farnham discloses abnormalities, which

represent intrusions in a network. However, Ye/Lundahl/Farnham fail to explicitly

disclose the further limitation of wherein the step of receiving a plurality of objects

further comprises the step of collecting source IP (Internet Protocol) address data,

destination IP address data and signature data. Sekar discloses determining

abnormalities in data, wherein abnormalities comprise intrusions in a network (see

abstract), including the further limitation of a step of receiving a plurality of objects which comprises a step of collecting source IP (Internet Protocol) address data [source address], destination IP address data [destination address] and signature data (see column 5, line 34 and line 45) in order to increase the speed and efficiency at which intrusions can be detected in a large sample of data.

It would have been obvious to one of ordinary skill in the art to use the IP address and signature data collected by Sekar with the data of Ye/Lundahl/Farnham in order to determine the intrusions in a network. One would have been motivated to do so in order to increase the speed and efficiency at which intrusions can be detected in a large sample of data.

Referring to claim 14, Ye/Lundahl/Farnham discloses abnormalities, which represent intrusions in a network and the step of clustering data. However, Ye/Lundahl/Farnham fail to explicitly disclose the further limitation of wherein the step of creating one or more clusters further comprises the step of clustering source IP address data, destination IP address data and signature data. Sekar discloses determining abnormalities in data, wherein abnormalities comprise intrusions in a network (see abstract), including collecting source IP (Internet Protocol) address data [source address], destination IP address data [destination address] and signature data (Smolsky: see column 5, line 34 and line 45) in order to increase the speed and efficiency at which intrusions can be detected in a large sample of data.

It would have been obvious to one of ordinary skill in the art to use the IP address and signature data collected by Sekar as the data being clustered by

Ye/Lundahl/Farnham. One would have been motivated to do so in order to increase the speed and efficiency at which intrusions can be detected in a large sample of data.

Referring to claim 15, Ye/Lundahl/Farnham discloses abnormalities, which represent intrusions in a network and the step of determining from statistical data whether abnormalities exist. However, Ye/Lundahl/Farnham fail to explicitly disclose the further limitation of wherein the step of determining from the statistical data whether each of the one or more clusters is abnormal comprises the step of detecting one or more intrusions from statistical data of source IP address data, destination IP address data and signature data. Sekar discloses determining abnormalities in data, wherein abnormalities comprise intrusions in a network (see abstract), including wherein the step of determining from the statistical data whether one or more abnormalities exist further comprises the step of detecting one or more intrusions from statistical data of source IP address data, destination IP address data and signature data (Sekar: see [0032]) in order to increase the speed and efficiency at which intrusions can be detected in a large sample of data.

It would have been obvious to one of ordinary skill in the art to use the IP address and signature data collected by Sekar as the data being clustered by Ye/Lundahl/Farnham. One would have been motivated to do so in order to increase the speed and efficiency at which intrusions can be detected in a large sample of data.

Referring to claim 23, the claim is rejected on the same grounds as claim 8.

Referring to claim 28, the claim is rejected on the same grounds as claim 13.

Referring to claim 29, the claim is rejected on the same grounds as claim 14.

     Referring to claim 30, the claim is rejected on the same grounds as claim 15.

Response to Arguments

11.   Applicant's arguments with respect to claims 1-31 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

12.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

    A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly Lovel whose telephone number is (571) 272-2750. The examiner can normally be reached on 8:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cottingham can be reached on (571) 272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kimberly Lovel
Examiner
Art Unit 2167

6 August 2007
kml

(Tapang) Primary Examiner